

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference EL/2 - 22992	<b>FOR FURTHER ACTION</b> see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. PCT/EP2004/053111	International filing date (day/month/year) 26/11/2004	(Earliest) Priority Date (day/month/year) 05/12/2003
Applicant  CIBA SPECIALTY CHEMICALS HOLDING INC.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 9 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (See Box II).

3. ☒ **Unity of invention is lacking** (see Box III).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

- a. the figure of the **drawings** to be published with the abstract is Figure No. \_\_\_\_\_

☐ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

- b. ☐ none of the figures is to be published with the abstract.

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## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C07D249/22 C07D249/20 C07F5/04 C07D405/14 C09K11/06  
H05B33/14 H01L51/20

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07D C07F C09K H05B H01L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, BEILSTEIN Data, WPI Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P, X	WO 03/105538 A (CIBA SPECIALTY CHEMICALS HOLDING INC.) 18 December 2003 (2003-12-18) claims 1-10	1-4, 6-13
X	US 4 533 612 A (H. EILINGSFELD ET AL.) 6 August 1985 (1985-08-06) cited in the application claims 1-14	1-4, 6-13
Y	EP 0 866 110 A (TOYO INK MANUFACTURING CO., LTD.) 23 September 1998 (1998-09-23) cited in the application claims 1-10	1-4, 6-13
	----- -/-- -----	

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*G\* document member of the same patent family

Date of the actual completion of the international search

9 May 2005

Date of mailing of the international search report

02. 09. 2005

Name and mailing address of the ISA

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 518 824 A (D. FUNHOFF ET AL.) 21 May 1996 (1996-05-21) cited in the application columns 5-9; claims 1-20; example 2 -----	1-4,6-13
X	US 5 104 740 A (M. SHINKAI ET AL.) 14 April 1992 (1992-04-14) cited in the application claim 4 -----	1-4,6-13
X	EP 0 418 385 A (SHIONOGI & CO., LTD.) 27 March 1991 (1991-03-27) claims 1,2 -----	1-4,6-13
Y	US 5 116 708 A (Y. SHIKATANI ET AL.) 26 May 1992 (1992-05-26) cited in the application column 4, line 30 -----	1-4,6-13
X	DATABASE BEILSTEIN 'Online! BEILSTEIN INSTITUT ZUR FÖRDERUNG DER CHEMISCHEN WISSENSCHAFTEN, FRANKFURT AM MAIN, DE; XP002327512 Database accession no. 286124,23014 abstract & CHMATAL ET AL.: COLLECT. CZECH. CHEM. COMMUN., vol. 24, 1959, page 494, -----	1-4,6-9
X	DATABASE BEILSTEIN 'Online! BEILSTEIN INSTITUT ZUR FÖRDERUNG DER CHEMISCHEN WISSENSCHAFTEN, FRANKFURT AM MAIN, DE; XP002327513 Database accession no. 310010 abstract & CRIPPA ET AL.: GAZZ. CHIM. ITAL., vol. 57, 1927, page 753, -----	1-4,6-9
X	DATABASE BEILSTEIN 'Online! BEILSTEIN INSTITUT ZUR FÖRDERUNG DER CHEMISCHEN WISSENSCHAFTEN, FRANKFURT AM MAIN, DE; XP002327514 Database accession no. 557484,617782,4916078,155862,184724 abstract & J. GARMATTER, A. E. SIEGRIST: HELV. CHIM. ACTA, vol. 57, 1974, pages 945-979, ----- -/--	1-4,6-9

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>DATABASE BEILSTEIN 'Online!  BEILSTEIN INSTITUT ZUR FÖRDERUNG DER  CHEMISCHEN WISSENSCHAFTEN, FRANKFURT AM  MAIN, DE;  XP002327515  Database accession no. 167844  abstract  &amp; ELBS: J. PRAKT. CHEM., &lt;2&gt;,  vol. 108, 1924, page 223,  -----</p>	1-4,6-9
X	<p>DATABASE BEILSTEIN 'Online!  BEILSTEIN INSTITUT ZUR FÖRDERUNG DER  CHEMISCHEN WISSENSCHAFTEN, FRANKFURT AM  MAIN, DE;  XP002327516  Database accession no. 146520  abstract  &amp; FRIES ET AL.: JUSTUS LIEBIGS ANN. CHEM.,  vol. 511, 1934, page 213,  -----</p>	1-4,6-9
X	<p>DATABASE BEILSTEIN 'Online!  BEILSTEIN INSTITUT ZUR FÖRDERUNG DER  CHEMISCHEN WISSENSCHAFTEN, FRANKFURT AM  MAIN, DE;  XP002327517  Database accession no. 28432  abstract  &amp; WILLGERODT, HERZOG: J. RAKT. CHEM. &lt;2&gt;,  vol. 71, 1905, page 396,  -----</p>	1-4,6-9
X	<p>DATABASE BEILSTEIN 'Online!  BEILSTEIN INSTITUT ZUR FÖRDERUNG DER  CHEMISCHEN WISSENSCHAFTEN, FRANKFURT AM  MAIN, DE;  XP002327518  Database accession no. 205560  abstract  &amp; KROLLPFEIFER ET AL.: JUSTUS LIEBIGS ANN.  CHEM.,  vol. 515, 1935, page 119,  -----</p>	1-4,6-9
X	<p>DATABASE BEILSTEIN 'Online!  BEILSTEIN INSTITUT ZUR FÖRDERUNG DER  CHEMISCHEN WISSENSCHAFTEN, FRANKFURT AM  MAIN, DE;  XP002327519  Database accession no. 167842  abstract  &amp; P. ZANIRATO: J. CHEM. SOC. CHEM.  COMMUN.,  vol. 19, 1983, pages 1065-1067,  -----</p> <p style="text-align: center;">-/--</p>	1-4,6-9

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>DATABASE BEILSTEIN 'Online! BEILSTEIN INSTITUT ZUR FÖRDERUNG DER CHEMISCHEN WISSENSCHAFTEN, FRANKFURT AM MAIN, DE; XP002327520 Database accession no. 25415 abstract &amp; JOSHI, GUPTA: J. INDIAN CHEM. SOC., vol. 35, 1958, page 681,</p> <p>-----</p>	1-4,6-9
X	<p>DATABASE BEILSTEIN 'Online! BEILSTEIN INSTITUT ZUR FÖRDERUNG DER CHEMISCHEN WISSENSCHAFTEN, FRANKFURT AM MAIN, DE; XP002327521 Database accession no. 20521 abstract &amp; CHARRIER: GAZZ. CHIM. ITAL., vol. 40, 1910, page 138,</p> <p>-----</p>	1-4,6-9
X	<p>DATABASE BEILSTEIN 'Online! BEILSTEIN INSTITUT ZUR FÖRDERUNG DER CHEMISCHEN WISSENSCHAFTEN, FRANKFURT AM MAIN, DE; XP002327522 Database accession no. 13989 abstract &amp; POSKOCIL, ALLAN: COLLECT. CZECH. CHEM. COMMUN., vol. 22, 1957, page 548,</p> <p>-----</p>	1-4,6-9
X	<p>DATABASE BEILSTEIN 'Online! BEILSTEIN INSTITUT ZUR FÖRDERUNG DER CHEMISCHEN WISSENSCHAFTEN, FRANKFURT AM MAIN, DE; XP002327523 Database accession no. 7652458,554679,550543,545489,7488704 abstract &amp; R. N. BUTLER ET AL.: J. CHEM. SOC. PERKIN TRANS. 1, no. 7, 1997, pages 1047-1050,</p> <p>-----</p>	1-4,6,7
X	<p>DATABASE BEILSTEIN 'Online! BEILSTEIN INSTITUT ZUR FÖRDERUNG DER CHEMISCHEN WISSENSCHAFTEN, FRANKFURT AM MAIN, DE; XP002327524 Database accession no. 8506620 abstract &amp; A. R. KATRITZKY ET AL.: HETEROCYCLES, vol. 52, no. 1, 2000, pages 203-214,</p> <p>-----</p> <p style="text-align: center;">-/--</p>	1-4,6-9

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DATABASE BEILSTEIN 'Online! BEILSTEIN INSTITUT ZUR FÖRDERUNG DER CHEMISCHEN WISSENSCHAFTEN, FRANKFURT AM MAIN, DE; XP002327525 Database accession no. 554478 abstract & O. IWAMOTO: YUKI GOSEI KAGAKU KYOKAISHI, vol. 23, 1965, page 51, -----	1-4,6-9
X	P. LOPEZ-ALVARODO ET AL.: "New Synthetic Applications of Arylaed Triacetates. N-Arylation of Azoles" J. ORG. CHEM., vol. 60, no. 17, 1995, pages 5678-5682, XP002327511 *Scheme 1 - compound of formula 11 * -----	1-4,6-9
X	G. YASUDA, H. KIMOTO: "Substitution Reactions of Phenanthro'9,10-d!triazole with Benzyl Chlorides" J. HETEROCYCL. CHEM., vol. 35, 1998, pages 365-369, XP002327533 * Compounds of formula 2 * -----	1-4,6-9

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/EP2004/053111

## Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
  
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
  
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
  
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-3 (all part), 4, 6 (part), 7 (part), 8, 9, 10 (part), 11 (part)  
12 (part), 13 (part)

### Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-3 (all part), 4, 6 (part), 7 (part), 8, 9, 10 (part), 11 (part), 12 (part), 13 (part)

2H-Benzotriazole compounds of formula I  
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2. claims: 1-3 (all part), 5, 6 (part), 7 (part), 10 (part), 11 (part), 12 (part), 13 (part)

2H-Benzotriazole compounds of formula II  
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## INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP2004/053111

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 03105538	A	18-12-2003	AU 2003238442 A1 BR 0311615 A CA 2487430 A1 WO 03105538 A1 EP 1520450 A1	22-12-2003 08-03-2005 18-12-2003 18-12-2003 06-04-2005
US 4533612	A	06-08-1985	NONE	
EP 0866110	A	23-09-1998	JP 3503403 B2 JP 10251633 A DE 69825134 D1 DE 69827061 D1 EP 0866110 A1 EP 0934992 A1 US 6280859 B1 US 2001033944 A1	08-03-2004 22-09-1998 26-08-2004 25-11-2004 23-09-1998 11-08-1999 28-08-2001 25-10-2001
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EP 0418385	A	27-03-1991	JP 1308268 A JP 2681369 B2 DE 68917728 D1 DE 68917728 T2 EP 0418385 A1 AT 110372 T WO 8912045 A1 US 5097040 A	12-12-1989 26-11-1997 29-09-1994 23-03-1995 27-03-1991 15-09-1994 14-12-1989 17-03-1992
US 5116708	A	26-05-1992	JP 2282263 A CA 2004880 A1 EP 0372979 A2 JP 2282264 A	19-11-1990 09-06-1990 13-06-1990 19-11-1990